

**A SINGLE CASE STUDY ON THE AYURVEDIC MANAGEMENT OF CEREBRAL PALSYP**<sup>1</sup>Dr. Chitra Devi Sharma and <sup>2</sup>Dr. Aniruddha Singh Yadav<sup>1</sup>M.D. (Kayachikitsa), Asst. Professor (Working in Kaumar-bhritya), S.B.S.D. Ji Ayurvedic Medical College, Fatehgarh Farrukhabad U.P.<sup>2</sup>M.D. (Agadtantra) Asst. Professor, S.B.S.D.Ji Ayurvedic Medical College, Fatehgarh Farrukhabad U.P.**\*Corresponding Author: Dr. Chitra Devi Sharma**

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**ABSTRACT**

Cerebral palsy (CP) is considering as a non progressive neuromotor disorder of cerebral origin.it includes heterogeneous clinical states of variable etiology and severity ranging from minor incapacitation to total handicap. In india 1.77% of the population has some form of disability. Spastic cerebral palsy is most common and incidence is 60% to 70% of all cerebral palsy case. It cannot be correlated with any single disease or condition in Ayurveda, as it is a multi-factorial disease with clinical features of a wide variation. It can be taken as Vatavyadhi as far as its etiology and symptoms are concerned. Here, an effort was made to treat a 7-year-old male child with spastic diplegic. Cerebral Palsy using multiple Ayurvedic treatment modalities. 3 Month oral medicine and Pañcakarma procedures resulted in better improvement in sign and symptom of cerebral palsy.

**KEYWORDS:** Cerebral palsy, vatavyadhi, panchakarma.**INTRODUCTION**

Cerebral palsy is a static disorder of posture and movement .it's cardinal symptom is motor disability and usually associated with speech, vision, intellect abnormalities of varying degrees. It is not familial disease. Brain growth is nearly complete by 2-3 years of age and Cerebral Palsy is a clinical manifestation of developing brain injury during this period, irrespective of the cause, commonest being adverse perinatal event like prematurity and birth asphyxia. Motor disorders of Cerebral Palsy are often accompanied by disturbances of sensation, perception ,cognition, communication and behavior. Cerebral Palsy is classified on basis of topographic distribution, neurologic finding and etiology are five type.

1.spastic 2. Hypotonic 3. Extrapyrmidal 4.cerebellar involvement 5. Mixed Cerebral Palsy.

**Sign and symptom-**Infants may have persistent irritability, difficult to feed and feels stiff or floppy .Infant does not develop motor skills in accordance to the age.Baby presents the features like tone abnormalities, persistent or asymmetrical primitive reflexs and delayed mile stones abnormal growth charts, impaired muscle tone.

**Diagnosis-** C.B.C, C.T. Scan/MRI, Audiologic testing, hip or spine X –ray, EEG.

**Management-**cerebral palsy can not be cured completely. Therapy is employed to manage impairment (Primarily spasticity, contracture and muscle tone), manage pain and provide optimum quality of life by fostering functionality, self care and independence.

The medical management program may include the following therapy. Autologous stem cell such as activation treatment to expand the blood vessels and nourish the neurons, strengthening of body's immune system, stem cell transplantation procedure, Botulinum toxin type A injection, baclofen intrathecal injection, selective dorsal rhizotomy, orthotic devices such as ankle-foot orthoses, hyperbaric oxygen therapy, neuroplasticity are the newer advancements being tried out in the management of Cerebral Palsy.

Ayurveda has a separate branch of clinical specialization concerning child healthcare known as Kaumarbhritya. There is no one to one correlation available in Ayurvedic classics with Cerebral Palsy, but there are many conditions and some causative factors linked to etiopathology for such type of disease condition described in many chapters in different texts. Some conditions which find an overlap of symptoms of Cerebral Palsy include Ekangaroga (monoplegia), sarvangaroga (quadriplegia), paksaaghata (hemiparesis), paksavadha (hemiplegia) phakka (a kind of nutritional disorder), Pangulya (locomotor disorders) under the group of vata vyadhi (neurologicaldisorders).

**CASE REPORT**

Basic information of the patient.

**Age:** 7 years.

**Sex-** Male.

**Religion:** Hindu

**Socio-economic status:** Middle class.

**Family history:** Father has educated and working in private company. Mother has studied 12th standard and she is a house wife. Total no. of family members are 3. No history of consanguinity marriage.

**Pradhanavedanavisesa (chief complaints)**

Patient was Unable to sit, stand or walk without any support, delayed milestones.

**Vartamanavyadhivrtta (history of present illnesses)**

Patient was preterm normal delivered and did not cry soon after birth and suffered from birth asphyxia and neonatal jaundice. Due to all these clinical complications, the child could not achieve normal growth and development. Spasticity and involuntary movement became apparent after the age of 5 months and since then the parents started treating the child going to many doctors without any significant benefit. They approached us for further management.

**Purvavyadhivrtta (history of past illness)**

Patient was suffered from Birth asphyxia, Neonatal Jaundice

**Cikitsavrttanta (Treatment History)**

He was undergoing physiotherapy and also had operated both thigh for muscles relaxation.

**Kulajavrttanta (Family History)-** No any significant history available.

**Birth history(Antenatal)**

Mother (24 years) has taken folic acid in the first trimester no H/o any fever, rashes, vaginal bleeding etc. in 1 st trimester. Mother had taken Inj. TT (two doses) in 2 nd trimester. No h/o hypertension, anemia etc.

**Perinatal:** Baby did not cry soon after birth. Birth weight was 2.3 kg (low birth weight). Liquor was clear. No any congenital anomalies were seen.

**Postnatal:** Baby had suffered from birth asphyxia, Neonatal jaundice.

**History of immunization**

Patient has taken BCG, DPT, HiB, HBV and Measles at the proper for age as per schedule.

**Personal history –Aharaja:** Patient was totally dependent for food intake and was eating only semi solid and solid food.

Appetite was poor. Diet was dominant in katu and amal rasa.

**Viharaja-** Nature of activity was always assisted (due to spastic diaplegia).

Sleep was disturbed (2–3 h/day, 6–7 h/night).

**Examination**

Vitals were normal.

**LOCAL & SYSTEMIC EXAMINATION**

**Respiratory system:** Air entry equal in both sides, Respiratory rate: 20/min. No other Cardinal symptoms of R.S.

**Cardiovascular system:** Pulse: 78/min

**Central Nervous System Examination**

- Higher function test:** Conscious, Alert, Co-operative, Oriented
- Speech Assessment:** Normal
- Gait :** Scissoring gait
- Muscle tone:** Increased especially on both legs
- Co-ordination test:** Finger nose test – Normal.
- Power:** Normal.
- Nutrition:** Normal.

Hyperreflexia was present, suggestive of upper motor neuron disease (which is the hallmark of C.P.).

**Involuntary movements-**Absent.

**Reflexes**

**Plantar reflex:** babinski's sign positive

**Deep Reflexes**

	Right	Left
Knee jerk	Exaggerated	Exaggerated
Ankle jerk	Exaggerated	Exaggerated

**Sensory Function**

		Pain	Touch	Temperature
Upper limb	Right	Normal	Normal	Not done
	Left	Normal	Normal	
Lower limb	Right	Normal	Normal	Not done
	Left	Normal	Normal	

**Bladder-** Normal, **Bowel -**normal, **Swallowing-**normal

**Dignosis- CT Scan of Patient-** Linear Shaped III defined clefts lined by Grey Matter in Both Parital regions, Extending upto the corona Radiata, may Represent Schizencephaly. Mild Fullness of Both Lateral ventricle.

**Ashtavidha Pariksha,**

Nadi (pulse) was vatadhika tridosaja.

Mutra (urine) Frequency and color were normal.

Mala (stool) was constipated and passes with a foul smell and dark color, once in two days. Jihva (Tongue) was sama (coated due to improper digestion).

Sabda (speech) –spasta, understandable.

Sparsa (touch) was khara (dry due to hypertonia and spasticity).  
Druk (eyes) was normal.  
Akruti (appearance) was lean (due to malnourishment).

### Samprapti

Vatprakopa



Katipradsha me Sthanashraya



Shnayu Kandara, Shira, Nadi ki vikriti



Khanja & Panguta

### Samprapati Ghataka

**Dhoshya:** vata (vyana, Apana)

**Dhushya:** Rasa, Rakta, Mamsa, Asthi, Shira, Snayu, Kandara

**Adhithana:** Asthi, majja

**Shrotasa:** Rasavaha, Mamsa, Asthivaha

**Shrotodusti:** Sanga

**Agni:** Mandya

**Sadhyata:** Krucha shadhya

**Criteria for Assesment** - Anthropometrical measurements, developmental milestone, Modified Ashworth Scale (MAS), Manual ability classification system (MACS), Reflex scale to assess deep tendon reflex.

**Chitrasutra-** Delayed development of gross and fine motor function may be due to a problem in normal function of Vata (Pravartaka Cheshtanam ucchavchanam). Hence achieve results in developmental disorders, function of Vata (normal physiology) should come to normal. we are doing *ama-pachana, deepan, mruudu sanshodan, anuloman, vatahara, balya, bhrughan chikitsa. Rasa vaha shroto dusti chikitsa* sutra langhan, *Mamsavaha vyadhi chikitsa* purificatory therapy, Surgical therapy, *Asthi asaraya vyadhi chikitsa* is *panchakarma* mainly *Basti* which consisting of *dugdha, ghruta* and drugs of bitter taste. *Shanayu, Shira, Kandra vyadhi chikitsa* is like vata vyadhi.

**Treatment Protocol-** The total duration of treatment was of 3 months in which mainly *Panchakarma* therapy along with oral drug (*Samana* therapy) was given.

#### A) Treatment in 1st sitting (for 1month)

10 day *Pachana* and *deepan chikitsa* followed by 7 day *Udawartana* followed by 15 days *Snehana* by *bala-Aswagandha taila* with *shashti shali pinda Sweda*.

#### B) Treatment in 2<sup>nd</sup> sitting (for 2 Month)

10 days *Majja siddha Anuvasan basti*. Two such courses were done with the interval of 1 month. After that 10

days gap. And again *nasya* for 10 days and after that *shirodhara* for 10 days simultaneously *Snehana* by *bala-Aswagandha taila* with *shashtika shali pinda Sweda* and oral medicine.

### Shodhan Chikitsa (Panchakarma)

**Deepan- Pachana-** with *chitrakadi vati* and *Trikatu churna* 1 gm+ *Haritaki churna* 1gm twice a day before meal with lukewarm water twice.

*Shunthi churna* 3gm+*Dhanayak churna* 2 gm (in 1 litra *jala*, boiling making *phanta*) used all day.

**Udawartana:** With *Istika churna* (*Brick powder*) with *tila taila* mixed (10 min).

**Abhyanga:** With lukewarm *Bala-Ashawagandha Tila Taila* (20 min)

**Swedan-** *Shashti Shali Pinda Sweda* (20 min).

**Nasya** – *Shatabindu taila* 2-2 drops.

**Anuvasan Basti (majja sidha tail)** - Basti was given with *majja siddha tail* (*majja* = 100 ml +1 litra of *tila tail*, *kwath dravya*= *bala churna*, *musta churna*, *shatavari* and *ashwagandha churna*) with 30 ml dose.

**Shirodhara-** *Bala-Ashawagandha Taila* (15 min).

**Shamana –Chikitsa-** *Aswagandha churna* 2 gm+ *Dhatupostic churna* 1 gm B.D. with Milk  
*Pipalyadhasawa* -5 m.l B.D.  
*Dwatrinsata kwath* 50 m.l. B.D

**Yoga** –*Pshchimotanasana and pranayam* 30 min.daily

**Exercise-** Forward bending, pulling the rope etc.

**Orthopedic support:** Light weight splints may be required for tight tendo- Achilles and cortical thumb.

## RESULT

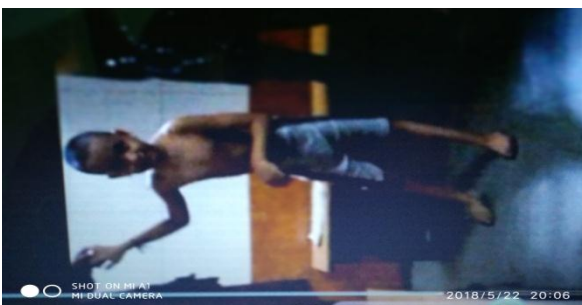
Table B.T. –A.T. Comparison.

Sings and symptom	B.T.	A.T.
1.Scissors gait	Present	Absent
2.Muscle-Tone	Hypertonicity	Improvement
3.Sitting	Unable	Easily sit
4.Standing	With support	Without support for 2-3minutes
5.Walking	With support	Without support for 30 sec.to 1minutes
6. Forward bending	For 120 degree	For 170 degree
7. Dropping of foot	Dropping of foot	Improvement
8.Appetite	<i>Alpa</i>	<i>Samayak</i> (Normal)
9.Stool	<i>Savibandha</i>	<i>Samayak</i> (Normal)
10.jivha	<i>Sama</i>	<i>Nirama</i>

Table B.T. –A.T. Comparison-Anthropometric parameters.

1. Weight(kg)	18kg	21kg
2. Height (in cm)	110	112
3. Head Circumference (in cm)	49	49.5
4. Chest Circumference(in cm)	62	64

## IMPROVEMENT IN THE PATIENT DURING TREATMENT



## DISCUSSION

*Abhyanga* therapy have vata anuloman, Mardavakaram, Vatakapha- nirodhanum, dhatupusti karum. (Su.chi.24/30). It's nourishes the body, extends the life span, provides better physical stability.

*Swedana* therapy removes stiffness, heaviness and cold of the body along with the sweat.(Ch. Su. 22./11). It help open the channels and removed the dosha. Dosha which are localized in the dhatu , in their own seats or lurking in their channels, which have become moist by lubricants now get liquefied by sudation reach the kostha and get expelled out by purifactory therapies. Sudation help kindles the digestive fire, softness to the body, goodness to the skin, desire for food, purity of the srotas and helps movements in stiff joints.

Udwartana –Massaging with the powder of istika churna with tila tail augments the fire of skin ,Widens the orifices of vein hence may have improved blood and lymphatic circulation.It helps in improvement in muscle-tone. (Su. chi.24/51,56).

Shashti shali pinda swadan, In which heat, pressure and oil are applied simultaneously with some Vatahara drugs. it help in inducing nerve stimulation and muscle's relaxation and increases the efficiency of muscle action by enhancing blood supply, thus ensuring the optimum condition for muscle contraction.

Shirodhara deeply relaxes the nervous system, lowers metabolism, integrates brain function and creates brain wave coherence. When the brain is under stress, cerebral circulation is compromised as the oil is poured on the head the nervous system is deeply stilled the brain waves slow down and coherent. Once the brain is quieted, more life energy and oxygen and other nutrients flow freely to

brain. This result is better brain function, mood stability. Regular treatments are said to increase blood circulation to the brain, improved memory and sound sleep and calm body and mind.

Basti (majja sidha basti) is said to have Bhughan effect. Basti have directly worked on *vata* to bring it back to normalcy. Basti acts on CNS by stimulating enteric nervous system (ENS), there are many evidences linking. This *Majja siddha Basti* given in the form of *Matra Basti* alleviates *Vata*, purifies the body by removing toxins carrying out *Mridu-shodhana* and provide nourishment to the patient. Dalhana state that material in skull is called *Mastulunga* (*Masthishka Majja*). it is like a *ghruta*. so brain contains *majja* in the form of *masthishka majja*. (Dalhada su. sh. 10/42) in ayurvedic concept of *charaka samanyam samanaya vrudhikarkam* Hence, *masthishka majja improvmnt by majja siddha basti*. Susrutha says the chief quality of *Majja* is providing *Bala* and *Snehana* to the *Shareera*. Function of *Majja Dhatu* Special function of *Majja* is *Purana* (filling of Bones). *Asthi* and *Majja* do the *Dharana* and *Purana* of the entire body indirectly with the help of *Medas*. Quantity of *Majja* While assessing the *Majja Guna* and *Karma*, it's evident that it helps in the maintenance of the shape of *Asthi* along with *Vata*. *Vata* and *Majja*, two different entities having the opposite quality are present inside the *Asthi* (*Vata* takes *Ashraya* in *Asthi* and *Majja* is formed inside the *Asthi*). They both complement each other system.

*Aswagandha* powder is providing a nourishing, yet energizing effect. It's can support a healthy nervous system. With the use of *Ashwagandha*, stress doesn't impact the nervous system. In this way, *ashwagandha* has a rejuvenating and calming influence on the nervous system.

*Bala churna*- It have anti inflammatory property it reduces inflammation in body. It is enriched with antioxidants. which aids in neutralizing effect of free radical in body. It help to relieves spasm of involuntary muscles. In Ayurveda, *Bala churna* have *balya*, *bhrughan Ojavardanam*, *krantikruta*, *Vataharanam* properties which help in to eliminates vitiliated *vata dosha*.

## CONCLUSION

The selected *Ayurvedic* treatment modality is effective in relieving the signs and symptoms and thus reducing the disability in children with diplegic Spastic Cerebral Palsy. In this patient, *Panchakarma* is effective in improving growth (height, weight, Chest Circumferance) and development (standing and walking without support), reducing spasticity of lower limb and spasm in patients. Delayed development of gross and fine motor function may be due to a problem in normal function of *vata* have directly worked on *vata* to bring it back to normalcy.

As this disorder is incurable, *Ayurveda* treatment helps the patient to improve the quality-of-life (QOL). Improvement in this disorder is possible in earlier age, in later age it become incurable. Previously, it was believed that neurons do not repair or rejuvenate after any injury, but the new concept of neuroplasticity says that CNS have the ability to repair their neurons by axonal sprouting to take over the function of damaged neurons. This improvement in patients also supports the concept of Neuroplasticity. So this case show we can improved such type of patient Quality of life by *Ayurvedic* treatment.

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